

## ABSTRACT OF THE DISCLOSURE

In a coefficient update method for a time domain equalizer of a DMT system, an optimum coefficient is obtained even during a data period. The processing volume for the coefficient update is also decreased. A coefficient of the TEQ 32 is updated by the output of the time domain equalizer (TEQ 32) of the DMT system. Because of this, the transient of the sync symbol where a cyclic prefix is added during the data period can be removed, so the coefficient of the TEQ can be accurately updated even if sync symbols are used. Therefore, the coefficient of the TEQ is updated even during data communication, so the coefficient of the TEQ 32 can be updated according to the change in the characteristics even for a channel where the characteristics change. Since the output of the FFT (36) on the main path at a subsequent stage of the TEQ (32) is used, the processing volume of the FFT for the coefficient correction processing can be decreased.